

Date Mailed November 26, 2004

BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of American Transmission Company LLC, as an Electric
Public Utility, for Authority to Upgrade, Operate and Maintain Electric
Transmission Facilities for the Plains-Amberg-Stiles-West Marinette
Project, Oconto and Marinette Counties

137-CE-124

CERTIFICATE AND ORDER

Introduction

On June 8, 2004, the Commission received a construction application from American Transmission Company, LLC (ATC or applicant), as an electric public utility, pursuant to Wis. Stat. § 196.49 and Wis. Admin. Code § PSC 4.10 and ch. PSC 112. The application seeks authority to rebuild the existing 65 mile, 138 kV double-circuit electric transmission line between Plains, Amberg, Crivitz, and Stiles substations, reconductor the Amberg-White Rapids 138 kV circuit, and modify and upgrade the Amberg Switching Station. Most of the proposed construction would occur in Oconto and Marinette counties in Wisconsin. However, terminal upgrade at the Plains Substation and construction of about 2.6 miles of the northern most segment of the Plains-Stiles transmission line and 0.1 mile of the Amberg-White Rapids transmission line will take place in Michigan. ATC also proposes to rebuild the White Rapids-Grand Rapids-Bay De Noc-Menominee-West Marinette 69 kV facilities for 138 kV operation. Although most of the construction for rebuilding these facilities to 138 kV operation would take place in Michigan, the construction for 3.6 miles of the 13.3 miles White Rapids-Grand Rapids and 3.8 miles of the 7.8 miles Menominee-West Marinette transmission line would occur in

Wisconsin. The transmission line construction will occur on the existing right-of-way (ROW) in both Wisconsin and Michigan at an estimated total construction cost of \$58,474,500, \$37,433,700 for Wisconsin and \$21,040,800 for Michigan.

The application is GRANTED, subject to conditions.

Findings of Fact

1. ATC is a public utility engaged in rendering electric transmission service in the state of Wisconsin, pursuant to Wis. Stat. § 196.485.
2. ATC's project consists of rebuilding, modifying, and upgrading facilities that provide transmission service to the northern portion of the ATC system. These facilities are located in Oconto and Marinette counties in Wisconsin and in Dickinson and Menominee counties in Michigan. The estimated total construction cost is \$37,433,700 for Wisconsin and \$21,040,800 for Michigan.
3. The estimated gross cost of this project exceeds the minimum threshold of utility projects requiring Commission review and approval under Wis. Admin. Code § PSC 112.05.
4. Completion of this project will not substantially impair the efficiency of the service that ATC provides.
5. The proposed facilities are necessary for ATC to provide adequate and reliable present and future service.
6. Completion of this project will not provide facilities unreasonably in excess of ATC's probable future requirements.

7. Alternatives to the proposed facilities have been considered, but no other reasonable alternatives to the proposed project exist that could provide adequate support in a more reliable, timely, cost-effective, and environmentally responsible manner.

8. Energy conservation, renewable resources, or other energy priorities listed in Wis. Stat. §§ 1.12 and 196.025 would not be a cost-effective alternative to this project.

9. When this project is placed in operation, the addition to ATC's cost of service associated with the project will be proportionate to the increase in value or available quantity of ATC's service.

10. All related construction activity takes place within the area of an existing electric transmission line ROW.

11. If ATC uses the line design and construction practices proposed in its application and follows the requirements of the Wisconsin Department of Natural Resources (DNR) for protecting threatened or endangered species, minimizing wetland and waterway impacts, and preventing the spread of invasive species, the project would not have a significant effect on the human environment and would not require the preparation of an environmental impact statement under Wis. Stat. § 1.11.

12. The general public interest and public convenience and necessity require completion of the project.

13. The demonstrated need to begin constructing the proposed facilities requires that this order be effective one day after the date of mailing or personal service upon the parties to this proceeding.

Conclusions of Law

The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 196.025, 196.485, 196.40, 196.49, and 196.85, and Wis. Admin. Code chs. PSC 4 and 112, to issue a certificate and order authorizing ATC, as an electric public utility, to rebuild, modify, and upgrade facilities that provide transmission service to the northern portion the ATC system, as described in this order, at an estimated total construction cost of \$58,474,500.

Opinion

ATC is a limited liability company created in accordance with Wisconsin state law as a single-purpose, for-profit transmission company. In January 2001, ATC acquired the transmission facilities formerly owned by Madison Gas and Electric Company, Wisconsin Electric Power Company (together with its affiliate Edison Sault Electric Company), Wisconsin Power and Light Company (together with its affiliate South Beloit Gas and Electric Company), and Wisconsin Public Service Corporation (WPSC). These companies received ownership shares in ATC in exchange for the transmission facilities that they conveyed to ATC. Wisconsin Public Power Incorporated contributed cash in lieu of facilities, and thereby acquired an ownership share of ATC. Subsequently, certain other investor-owned utilities, municipal and cooperative electric systems have also joined ATC.

Project Need and Proposed Facilities

ATC proposes to rebuild, upgrade, and modify electric transmission facilities to increase capacity and improve reliability of its transmission system in the northeastern portion of its service territory. Construction would take place in both Wisconsin and Michigan. In Wisconsin, construction activity is planned for Oconto and Marinette counties. The two primary

transmission service paths for the northeast Wisconsin and the Upper Peninsula (UP) of Michigan of the ATC transmission system are: (1) the 65-mile, Plains-Amberg-Crivitz-Stiles double-circuit 138 kV transmission line and (2) the Morgan-Plains single-circuit 345 kV transmission line. When transmission service demands are high during non-peak demand periods-- when peaking generation is not operating--an outage of the Morgan-Plains 345 kV line causes overloading of the Stiles-Amberg and Stiles-Crivitz segments of the double-circuit 138 kV Plains-Stiles line. This line also has the highest incidence of transmission loading relief (TLR) within the ATC system. These operational limitations are normally addressed through the redispatching of generation¹. When generation redispatching fails to relieve the high loading to within safe operating limits on these facilities, ATC either curtails or interrupts transmission service to customers. Redispatching and curtailing/interrupting are not desirable actions, as redispatching requires operation of costly generation units and curtailing or interrupting transmission service transfers inconvenience and cost to retail customers.

The Plains-Stiles line is 79 years old and is past its useful service life. The typical expected service life for phase conductor, shield wire, and insulators is 60 years. With the exception of new insulation on the Plains-Amberg segment in the early 1990s, the balance of the facilities range in age from 34 to 79 years. The proposed project also includes reconductoring and upgrading of the Amberg -West Marinette transmission line facilities of which range in age from 31 to 79 years.

¹ When transfers between Wisconsin and Michigan approach or reach security limits, ATC must declare the need for TLR and redispatch generation. The numbers of TLRs related to transfers between Wisconsin and Michigan have totaled 85, 110, and 153 in the years 2001, 2002, and 2003, respectively. The cost of generation redispatch in these years has been approximately \$2 million, \$3 million, and \$5 million, respectively.

The shield wire is rusted in many areas and has resulted in several failures. Shield wire failures can cause service interruptions and endanger public safety, as a broken wire can contact an energized conductor. For example, in January 2004, the shield wire failed on the Plains-Amberg segment of the Plains-Stiles line and contacted a distribution circuit, which tripped out of service. The brittle condition of the shield wire required both transmission circuits to be taken out of service for performing repairs safely. This incident also caused generation redispatch and curtailment of firm transmission transactions.

ATC evaluated five different alternatives to the proposed project. Three of these are variations of the proposed project. These three alternatives differ from the proposed project in conductor size, length and location of the temporary bypass transmission line to maintain continuity of the transmission path during construction, ease of construction of the bypass line, use of the existing lattice towers, use of energized construction, deferring the rebuilding of some segments of the Plains-Stiles line, or reconductoring and upgrading from 69 kV to 138 kV operation, as necessary, the Amberg-West Marinette transmission circuit facilities. These alternatives were not pursued because they do not provide the same corridor capability and voltage stability as the proposed project, the transmission bypass line would be more difficult to construct, they do not upgrade the aged facilities of the Amberg-West Marinette circuit, and the existing lattice towers are unsuitable for new conductors. The estimated costs of these alternatives ranged from \$27 million to \$46 million compared with \$58 million for the proposed project. Two of these alternative also require riskier energized construction.

In addition to these three alternatives, ATC evaluated two other alternatives. One of these alternatives includes constructing a new transmission path to serve the northern portion of

the ATC system. It includes converting 69 kV facilities to 138 kV operation, as necessary, from Amberg to West Marinette and from White Rapids to Chandler Substations. This alternative would require acquiring 23 miles of new ROW and would not solve the issues related to the aging facilities of the existing Plains-Stiles line. The estimated cost of this alternative is about \$48 million.

The fifth alternative includes rebuilding the Morgan-Plains 345 kV H-frame, single-circuit line as a double-circuit 345 kV steel pole line. This would add a new 345 kV circuit, initially operated at 138 kV, connecting to the Stiles Substation through a proposed future second circuit between the Morgan and Stiles Substations. Although this alternative creates a new transmission path, it does not improve the voltage stability as much as the proposed project or address the issues related to the aged facilities of the existing Plains-Stiles line. The estimated cost of this alternative is about \$54 million.

The economic cost comparison of the alternatives included capital cost, the projected electric loss savings, generation redispatch cost, and the capital costs associated with addressing the future upgrading of aged facilities if not included in a particular alternative.

The Plains-Amberg-Stiles-West Marinette project is a building block and the first in a series of projects proposed by ATC to improve reliability and relieve constraints on the northern portion of its transmission system. It includes rebuilding both circuits of the 138 kV double-circuit line from the Plains Substation to the Stiles Substation with T-2 477 kcmil²

² Kcmil stands for thousand circular mils, a measure of wire cross-section area. The circular mil is a unit of area used especially when denoting the cross-sectional size of a wire or cable. It is the equivalent area of a circle whose diameter is 0.001 (10⁻³) inch, or approximately 2.54 x 10⁻⁵ meter.

ACSR conductor³ on double-circuit steel poles, using a 22-mile temporary transmission bypass line during construction of the Plains-Amberg segment thereby maintaining corridor transmission capacity; reconductoring the 138 kV transmission line between the Amberg and White Rapids substations; converting 69 kV facilities to 138 kV operation between the White Rapids and West Marinette substations, using T-2 477 kcmil ACSR conductor; constructing a new White Rapids Substation adjacent to the existing White Rapids Substation to provide four 138 kV line terminals; upgrading the Grand Rapids Substation to provide two 138 kV line terminals; adding one 138 kV line terminal at the West Marinette Substation; and upgrading the terminal equipment at Stiles, Amberg, Crivitz, and Plains substations to 2000-amp thermal capability. A detailed description of the construction schedule is provided below.

Proposed Construction Schedule

ATC has organized construction work for the proposed project into two phases because of the duration and complexity of the proposed work. The sequence of construction work may change if ATC finds that it has to do construction on energized circuits to meet its schedule.

Phase 1 construction

ATC plans to perform Phase 1 construction in three stages, with Stages 1 and 2 to be completed by June 2005.

Stage 1 activities

ATC plans to carry out most of the construction listed below at the same time.

³ The twisted configuration of the T-2 477 aluminum conductor steel reinforced (ACSR) conductor offers significantly higher protection against galloping and can be installed at higher tension levels.

- 1) Plains-Amberg 138 kV Temporary Bypass Line: Construct a temporary line, to provide continuity of service and de-energized construction of the Plains-Amberg line, parallel to the existing 79-year-old, 22-mile segment of the double-circuit 138 kV transmission line between the Plains Substation and the Amberg Switching Station. The temporary line would be a single circuit on wood poles utilizing horizontal line post insulators. It would be located within the existing ROW, offset from ROW centerline by 40 feet.
- 2) Amberg Switching Station: Expand the Amberg Switching Station 120 feet east on ATC property and install a 138 kV bus, a breaker, a 138/69 kV transformer to serve Dave's Falls distribution substation and a future WPSC distribution substation, a deadend structure for the Amberg-White Rapids 138 kV line, and a new control house. Reroute the existing 69 kV line to the Dave's Falls Substation to the 138/69 kV transformer at Amberg Substation.
- 3) White Rapids Substation: Construct a new White Rapids Substation with a 4-position ring bus to provide additional reliability and operational flexibility to connect lines from the Chalk Hills hydro-generator, Amberg Switching Station, White Rapids hydro-generator, and the new Ingalls Substation.
- 4) Grand Rapids/Ingalls Substation: Upgrade the two existing 69 kV terminals to 138 kV line terminals and remove the 69 kV line facilities west of Ingalls. WPS plans to construct a new Ingalls Substation at the site of the existing Grand Rapids Substation, which would be retired. WPSC would jointly own this substation with ATC.
- 5) Amberg-White Rapids Line: Remove the existing 69 kV circuit from White Rapids to Dave's Falls distribution substation. Reconductor the existing 8.7-mile 138 kV transmission line with T-2 477 kcmil ACSR conductor and OPGW⁴ shield wire. Reuse the existing double-circuit tangent steel lattice towers and replace angle lattice steel structures with weathering steel poles on the existing right-of-way. Locate the lowest phase conductor to a higher position on the vacant side of the structures to provide needed ground clearance for the heavier conductor.

Stage 2 activities

- 1) Plains-Amberg Line: Remove the existing 22-mile, double-circuit transmission line and construct a new 22-mile, 138 kV double-circuit transmission line with T-2 477 kcmil ACSR conductor and OPGW shield wire on the existing ROW centerline using double-circuit weathering steel poles.
- 2) Grand Rapids-White Rapids Line: Rebuild the existing 13-mile, 69 kV transmission line for operation at 138 kV with T-2 477 kcmil ACSR conductor. Replace the existing wood H-frame and wishbone structures with single-circuit weathering steel poles on the existing ROW centerline.

⁴ Optical Ground Wire (OPGW) is a composite wire which serves as a conventional overhead ground wire, with the added benefit of providing high-capacity and reliable fiber optic communications to service current and future needs.

- 3) West Marinette Substation: Install a new 138 kV terminal.
- 4) Bay De Noc-Grand Rapids Line: Rebuild/reconductor the existing 14.2-mile 69 kV single-circuit transmission line for 138 kV operation with T-2 477 kcmil ACSR conductor and OPGW shield wire on a combination of steel, round wood, and wood laminated poles (to accommodate distribution underbuild) on the existing ROW. Remove the existing 69 kV conductor, shield wire, and triangular structures.
- 5) Menominee-Bay De Noc Line: Install new 138 kV T-2 477 kcmil ACSR conductor and OPGW shield wire on new single-circuit weathering steel poles on the existing ROW centerline. Remove the existing 1.6 miles of 69 kV conductor and horizontal line post pole structures.
- 6) Bay De Noc Substation: Remove and retire the 69 kV facilities at the substation.
- 7) West Marinette-Menominee Line: Install new double-circuit weathering steel poles on the existing ROW centerline. Relocate the existing 69 kV conductor and shield wire to the new structures. Install 7.1 miles of new 138/69 kV double-circuit transmission line (3.8 miles in Wisconsin and 3.3 miles in Michigan), using T-2 477 kcmil ACSR 138 kV conductor and OPGW shield wire for the 138 kV circuit. Remove the existing 1967-vintage wishbone-style wood poles. At West Marinette Substation add a line terminal for the new 138 kV line from Ingalls Substation and reconnect the relocated 69 kV line that would continue to serve Menominee Substation. At Menominee Substation, reconnect the relocated 69 kV line from West Marinette Substation.

Stage 3 activities

Plains-Amberg Temporary Bypass Line: Remove the temporary bypass line.

Phase 2 construction

The following construction activities are planned for completion by June 2006:

- 1) Amberg-Crivitz Line: Rebuild the existing 22-mile, 138 kV double-circuit transmission line with T-2 477 kcmil ACSR conductor and OPGW shield wire on new, double-circuit weathering steel poles. Remove the existing conductor, shield wire, and steel lattice towers.
- 2) Crivitz-Stiles Line: Rebuild the existing 21-mile, 138 kV double-circuit transmission line with T-2 477 kcmil ACSR conductor and OPGW shield wire on new, double-circuit weathering steel poles. Remove the existing conductor, shield wire and steel lattice towers.

The estimated Wisconsin construction cost is \$37,433,700, which includes \$31,749,000 for transmission line construction, \$2,112,800 for substation upgrades, \$3,165,700 for removal of transmission lines, and \$406,200 for pre-certification costs. The estimated Michigan construction cost is \$21,040,800. The estimated construction cost for both Wisconsin and Michigan is \$58,474,500. ATC will meet the cost of the project from internal sources, security issues, or a combination of both.

The proposed installation and operation of the facilities at the estimated cost will not impair the efficiency of the applicant's service, will not provide facilities unreasonably in excess of probable future requirements, and, when placed in operation, will not add to the cost of service without proportionately increasing the value or available quantity thereof.

Additional energy conservation in the northern portion of the ATC service area could delay the need for upgrading and modifying the proposed facilities, but is unlikely to be a cost-effective alternative. The need for increased transmission capacity and improved reliability of the aged facilities are two important reasons for this project. It is unlikely that renewable resources, other forms of generation, or additional energy conservation would be a cost-effective alternative. No special circumstances exist that would lead a decision-maker to conclude that additional conservation activities, renewable resources, or any other energy priorities listed in Wis. Stat. §§ 1.12 and 196.025 would be a reasonable alternative to this project.

Route segments and substation locations

Segment 1 (Plains-Amberg): The double-circuit 138 kV transmission line runs south 19.1 miles between the existing Plains Substation in Michigan and the Amberg Switching Station. Plains Substation is located in the town of Breitung, Dickinson County, Michigan. The

transmission line then runs through the city and town of Niagara in Marinette County, Wisconsin continuing through the towns of Pembine and Beecher to the existing Amberg Switching Station in the town of Amberg, Marinette County.

Segment 2 (Amberg-Crivitz): The double-circuit 138 kV transmission lines run 22.5 miles in a southerly direction between Amberg Switching Station (through the towns of Wausaukee, Middle Inlet, and Stephenson) and Crivitz Substation in the village of Crivitz, Marinette County.

Segment 3 (Crivitz-Stiles): The double-circuit 138 kV transmission lines run 21.5 miles south from Crivitz Substation (through the towns of Stephenson, Beaver, Pound, Lena, Oconto, and Stiles) to Stiles Substation in the town of Stiles, Oconto County.

Segment 4 (Amberg-White Rapids): The first 8.5 miles of single-circuit 138 kV transmission line runs east on steel lattice structures from Amberg Switching Station through the town of Amberg in Marinette County, Wisconsin to the adjacent Rosebush and White Rapids Substations in the town of Holmes, Menominee County, Michigan. A 69 kV circuit shares space on the lattice towers supporting the 138 kV line between the Dave's Falls Substation and the Pike River Switching Station.

Segment 5 (White Rapids-Grand Rapids): The single-circuit 69 kV transmission line proceeds southeast, just east of the Rosebush/White Rapids Substations, running 9.7 miles through the towns of Holmes and Lake in Menominee County, Michigan. It then continues 3.6 miles to the southeast through the town of Wagner, Marinette County, Wisconsin to the Grand Rapids Hydro Substation.

Segment 6 (Grand Rapids-Menominee River, MI): At a point 1.5 miles east of Grand Rapids Hydro Substation the line proceeds directly south 14 miles through the towns of Mellen and Menominee to the Bay De Noc Substation. From the Bay De Noc Substation the line continues south 2.3 miles to the Menominee Substation in the city of Menominee, Menominee County, Michigan. The portion of this segment between Grand Rapids and Bay De Noc substations would contain distribution underbuild owned by WPSC.

Segment 7 (Menominee River-West Marinette): At Menominee Substation, the double-circuit transmission line proceeds west approximately 3.8 miles through the town of Menominee, Menominee County, Michigan, at which point the line runs south four miles (through the townships of Porterfield and Peshtigo) to the West Marinette Substation. This entire segment would contain distribution underbuild owned by WPSC.

One substation would be modified and another would be constructed in a new location as discussed below.

Amberg Switching Station

The Amberg Switching Station would be expanded 120 feet to the east on ATC property to provide space for the 138/69 kV transformer to serve the Dave's Falls distribution substation and for a future WPSC distribution substation. A 138 kV bus would be installed with a breaker for the Dave's Falls transformer. A deadend structure for the Amberg-White Rapids 138 kV line would also be installed.

White Rapids Substation

ATC plans to construct a new White Rapids Substation to replace the existing White Rapids Substation. Because of space limitations at the present substation location, ATC would obtain a new three-acre site adjacent to the existing substation in Michigan.

Environmental Review

This is a Type 3 project under Wis. Admin. Code § PSC 4.10(3). Type 3 projects do not normally require the preparation of an environmental impact statement or an environmental assessment. However, due to the scope of the project and the potential for adverse environmental effects, an environmental assessment was prepared, according to the procedures outlined in Wis. Admin. Code § PSC 4.20, to determine if an environmental impact statement is necessary under Wis. Stat. § 1.11. It has been determined that no significant impacts on the human environment would occur. Therefore, an environmental impact statement is not required.

The dominant land cover along the ROW in the southern portion of the project area is agriculture; further north, forest and wetlands are the dominant land cover. The existing transmission lines that are the subject of this application pass through two highly developed areas. These areas are the city of Niagara and the village of Crivitz.

Within the city of Niagara, the existing transmission line ROW follows the centerline of Goodreau Street, which is about 70 feet wide. Two steel lattice towers are located on the street and the 106-foot wide ROW in this area encroaches on several residential properties located on Goodreau Street. Construction of the temporary line that would be necessary to maintain transmission service while the permanent line is being rebuilt would likely require severe

trimming or removal of some trees on several residential properties. These trees currently function as a visual screen between the existing transmission line and the residences.

In Crivitz, the existing line parallels the east side of USH 141. Some of the conductors pass over three commercial businesses near the intersection of CTH W and USH 141 and a house near South Street. Because three of these buildings contain dwellings, the proposed line reconstruction is subject to the state electric safety code (Wis. Admin. Code § PSC 114.234A4) that prohibits transmission lines over occupied dwellings. ATC would pursue purchase of two of the buildings to ensure that they would no longer be used as residences, and it would pursue a deed restriction prohibiting use of a third building for residential purposes. The remaining building does not contain a dwelling. ATC worked closely with the village of Crivitz to investigate alternative solutions to these impacts which included relocating the line. None of the alternative solutions proved to be viable and the village is satisfied with ATC's proposed plans. In other locations along the project ROW, residences are much more scattered. Occupants of nearby homes would be subjected to temporary construction impacts such as noise, dust, and minor traffic congestion caused by construction equipment.

In the northern part of the project area, the primary impact concern is potential damage to wetlands located within the ROW. Nearly one-third (19.4 miles) of the 65-mile ROW between the Plains and Stiles Substations is classified as wetland. ATC has many opportunities for accessing the ROW from town roads and farm roads in the southern part of the project area. However, much of the northern area, between Niagara and the Amberg Substation, is comprised of forest, wetlands, and exposed bedrock. Few public roads that intersect the ROW are present here, and initially, ATC proposed to access each existing and new transmission structure site by

traveling within the existing ROW. However, traveling along the ROW with the equipment necessary to construct the temporary line, dismantle the existing lattice towers, and install new 138 kV double-circuit line on steel poles on concrete foundations would be extremely difficult in some areas because of the rocky terrain, steep slopes, and abundance of wetlands.

An access plan has been developed that would use some logging roads present in the area to get to some structure locations. If landowner permission can be obtained to use these roads for access, the amount of wetlands expected to be impacted by construction vehicles should be greatly reduced. In instances where vehicles must travel within the ROW across wetlands, use of timber mats and wide-tracked vehicles would further reduce impacts to wetlands.

Construction work could lead to the spread of invasive exotic species that can crowd out native species. Zebra mussels could be introduced to the Menominee River through adult mussels attached to a construction barge. Invasive plants can be introduced by the transfer of plant seeds or parts sticking to construction equipment. Soil brought in from outside the ROW to fill holes created from the removal of old or temporary transmission structures can also be a source for invasives. In waterways, Eurasian water-milfoil is a concern; in wetlands, purple loosestrife and *Phragmites* are a concern; in upland areas, spotted knapweed and orange hawkweed are a concern.

The Miscauno Cedar Swamp State Natural Area is located about a half mile east of the transmission line ROW. Construction vehicles could carry invasive plant seeds or parts to CTH Z, from whence vehicles of visitors could transfer these propagules to the Natural Area. This risk could be reduced by restricting construction traffic from traveling near the Natural Area.

Zebra mussel introduction could be prevented through the careful inspection and cleaning of the barge before its use in the Menominee River. Careful cleaning of construction equipment after leaving areas infested with invasive plants or before entering non-infested areas could reduce the probability of introductions. It would be necessary to inspect non-infested construction areas following construction to assure that eradication measures could be undertaken if invasives are spread.

Approximately 49 stream crossings are present along the project ROW. Nineteen of these crossings involve trout streams. The Pike River, which is designated as a State Wild and Scenic River would be crossed twice. Implementing appropriate erosion control measures when working in proximity to these streams and rivers should minimize the potential for siltation and water quality degradation. At one Pike River crossing, ATC intends to locate the nearest structure further back from the river than the existing structure to reduce the scenic impacts of the line.

Eleven species listed as state or federal threatened or endangered species are present in the project area and could potentially be affected by project activities. The aquatic species include two dragonfly, one fish, one plant, and one mussel species. Potential impacts to these resources should be minimized by avoiding siltation into streams and rivers through the application of appropriate erosion control measures. The bald eagle, osprey, and wood turtle are also present in the project area. ATC plans to avoid construction activities within 1/4 mile of any eagle or osprey nests during the breeding and nesting season. Any osprey nests located on transmission structures may also need to be relocated. To protect the wood turtle, construction activities would be prohibited in known wood turtle habitat during the months when turtles are

active or exclusion fencing would be used to keep turtles out of the construction zone. The remaining species include one butterfly and two plant species. Pre-construction surveys to identify if these species are present in the ROW may be required if construction cannot be completed during periods of the year when these species are dormant. An incidental take permit may be needed if it is determined that the butterfly species occurs in or adjacent to the ROW. Finally, Natural Heritage Inventory records indicate that 42 additional species that are classified as Special Concern species may be present in the project area. ATC would be required to work with the DNR Office of Energy to minimize potential impacts to these species.

South of the Amberg Substation, approximately 212 acres of agricultural land are within the existing transmission line ROW. Potential impacts on farming include soil compaction and rutting, damage to crops, and some loss of productive land when the new structures are installed (although additional land would be available for production when the existing lattice towers are removed). Restricting construction in agricultural areas to times of the year when the ground is frozen would eliminate or reduce the potential for soil compaction and rutting. ATC would be required to compensate farm owners for any damage to crops that occurs during construction or maintenance of the line. If soil compaction does occur, ATC should compensate the farm owners for this damage as well.

Finally, there would be some visual changes in the appearance of the line. On most segments the new steel poles would be 10 to 30 feet taller than the existing transmission line structures. Thus, the new lines may be more visible if the poles extend above the tree line. Between the Plains and Stiles Substation, replacement of the existing lattice towers with more

streamlined single-pole steel structures could result in the line being less noticeable to local residents and travelers on USH 141.

In summary, rebuilding and upgrading the existing transmission lines of the project would result in no new substantial long-term impacts. Construction activities may damage wetlands present within the existing ROW, but these adverse effects can be minimized if ATC limits the number of wetlands that construction vehicles cross. Use of best management practices and performing construction in the winter months when the ground is frozen or dry would minimize impacts to cropland, wetlands, and threatened or endangered species.

Some localized effects of the project would be felt by landowners in the city of Niagara and the village of Crivitz. ATC would have to work with these landowners to minimize individual hardships and compensate them for adverse effects on the value of their property.

Certificate

ATC is authorized to construct and place in operation the proposed transmission line and substation upgrades and modifications in Oconto and Marinette Counties in Wisconsin, and in Dickinson and Menominee Counties in Michigan, at an estimated cost of \$58,474,500, as described in its application.

Order

1. ATC's application for authority to modify and upgrade facilities in Oconto and Marinette Counties in Wisconsin, and in Dickinson and Menominee Counties in Michigan, at an estimated total cost of \$58,474,500, as described above, is granted.

2. ATC shall obtain all other necessary regulatory permits and approvals.

3. ATC shall employ proper erosion control methods using DNR Best Management Practices for Construction Sites before, during, and immediately after construction of the project. Erosion control shall be regularly inspected and maintained throughout the construction phase of the project and until exposed soil has been stabilized.

4. ATC is responsible for all crops lost or damaged during construction and for soil compaction in agricultural fields caused by construction activities. ATC shall compensate landowners for these damages.

5. ATC shall develop a plan to control the spread of spotted knapweed and orange hawkweed due to construction activities along the Niagara to Amberg segment of the project. This plan shall be approved by the DNR's Office of Energy.

6. Any barge used in construction shall be free of zebra mussels before being placed in the Menominee River.

7. Fill brought in from outside the ROW shall be free of invasive plant species propagules.

8. To reduce the risk of introducing invasive plant species into the Miscauno Cedar Swamp State Natural Area, construction traffic shall not travel further east along CTH Z in the Town of Beecher, Marinette County, than 500 feet east of Tower Line Road.

9. ATC shall provide the DNR's Office of Energy with an assessment of whether the project construction footprint will overlap with the suitable habitat for state or federally listed threatened or endangered species and state special concern species found in the project area. The DNR has already provided ATC, in a letter dated September 30, 2004, with this list of species. If construction activity or long-term maintenance of the transmission lines will affect suitable or

occupied habitat for these species, ATC shall design and implement appropriate surveys and avoidance measures in consultation with the PSC and the DNR's Office of Energy. In the event that potential impacts to state or federally listed species cannot be avoided, the DNR and/or the United States Fish and Wildlife Service (USFWS) shall be consulted to determine whether an incidental take permit is necessary under the Wisconsin Endangered Species Law and the Federal Endangered Species Act, respectively.

10. ATC shall follow the avoidance measures specified in Attachments 1, 2, and 3 to minimize impacts to the bald eagle, osprey, and wood turtle.

11. ATC shall consult with the DNR's Office of Energy to determine where measures shall be taken to reduce the potential for bird collisions with the project's transmission lines and shall then implement such measures.

12. Authorization is for the specific project as described in the application and at the stated project cost. Should the scope, design, or location of the project change significantly, or if the project cost is exceeded by more than 10 percent, ATC shall promptly notify the Commission.

13. The date that the facilities are placed in service shall be submitted to the Commission.

14. Final actual costs segregated by major accounts shall be submitted to the Commission within one year after the in-service date. For those accounts or categories where actual costs deviate significantly from those authorized, ATC shall itemize and explain the reasons for such deviations in the final cost report.

15. This order is effective one day after the date of mailing or personal service upon the parties to the proceeding.

16. This authorization is valid only if construction is started within one year of the date of this order.

17. ATC shall submit quarterly progress reports to the Commission indicating the project's major construction and environmental milestones, the extent of the physical completion to date, and the expenditures to date. The first report is due within 90 days of the date of this order.

18. Jurisdiction is retained.

Dated at Madison, Wisconsin, _____

For the Commission:

Robert Norcross
Administrator
Electric Division

RDN:USS:mem:g:\order\pending\137-CE-124

See attached Notice of Appeal Rights

Notice of Appeal Rights

Notice is hereby given that a person aggrieved by the foregoing decision has the right to file a petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed within 30 days after the date of mailing of this decision. That date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

Notice is further given that, if the foregoing decision is an order following a proceeding which is a contested case as defined in Wis. Stat. § 227.01(3), a person aggrieved by the order has the further right to file one petition for rehearing as provided in Wis. Stat. § 227.49. The petition must be filed within 20 days of the date of mailing of this decision.

If this decision is an order after rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not an option.

This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

Revised 9/28/98

**American Transmission Company
Plains-Stiles-West Marinette Transmission Project
Bald Eagle Protection Protocol**

Eagle tolerance of human presence is highly variable, seasonally, among different individuals and among pairs of eagles. While some bald eagles nest and accept people and activities such as boaters, hikers, cabins, roads, and other human presence in very close proximity to nests, others may be extremely intolerant and be readily disturbed. In general, all eagles are disturbed more easily during portions of the nesting season. As a result, our approach during construction should be conservative in that we assume that intolerant birds will be present and that construction activities be avoided near nests during the nesting season.

The following measures are designed to avoid or minimized disturbance to eagles during construction of transmission lines.

- 1. Primary Eagle Nest Buffer Zone (330 ft. radius):**
All construction-related activities and alterations to habitat will be prohibited within this zone. Human entry will be prohibited during the most critical (March 1 to July 1) and moderately critical (February 15 to March 1 and July 1 to August 1) time periods.
- 2. Secondary Eagle Nest Buffer Zone (330 ft. - 660 ft. radius):**
Construction-related activities that result in significant changes to the landscape, such as clearcutting, land clearing, or major construction, will be prohibited. Actions such as thinning tree stands or maintenance of existing improvements and human access can be permitted, but not during the most critical time period. Any new construction access roads in this zone will be reclaimed after construction is completed, or at least closed during the most and moderately critical time periods.
- 3. Tertiary Eagle Nest Buffer Zone (660 ft. to 1420⁺ ft. radius):**
This zone will extend one-quarter mile from the nest but may extend up to one-half mile if topography and vegetation conditions permit a direct line of sight from the nest to construction activities. Therefore, the configuration of this zone may be variable. Some construction activities are permissible within this zone except during the most critical period.

If construction activities within ¼-mile of an active nest are unavoidable, especially during the most critical period, American Transmission Company will coordinate with appropriate U.S. Fish and Wildlife Service and Wisconsin Department of Natural Resources (DNR) staff.

**American Transmission Company
Plains-Stiles-West Marinette Transmission Project
Osprey Protection Protocol**

The osprey breeding population in Wisconsin is concentrated primarily in the inland lake region of the northern part of the state with small populations are nesting in central and southern Wisconsin. Nest blow-downs, predation, habitat destruction and disturbance (e.g., waterfront development, boating, and other human disturbances) continue to influence the reproductive success of Ospreys in Wisconsin.

The following measures are designed to avoid or minimized disturbance to ospreys during construction of transmission lines.

4. Osprey nests located on existing transmission line structures will be removed between the time that young ospreys have fledged (usually by August 1) and March 31 the following year. These nests will be replaced in close proximity with new nesting platforms affixed to the top of new transmission line structures.
5. If construction is to occur in the vicinity of and active osprey nest during the critical period of the nesting season (April 1 to June 15), measures will be taken to limit construction activities to greater than ¼-mile from the nest. If construction activities within ¼-mile of an active nest are unavoidable, American Transmission Company will coordinate with appropriate Wisconsin Department of Natural Resources (DNR) staff.
6. Under certain circumstances it may be desirable to remove an existing nest and relocate a nesting platform to a new adjacent location. This decision will be coordinated with appropriate DNR staff.

**American Transmission Company, LLC
Wood Turtle Protection Guidelines
(Plains-Stiles Transmission Line Project)**

Wood turtles were once found throughout Wisconsin, except for the southern and east central-most portion of the state. Today, while their statewide distribution appears to be similar, populations appear to be significantly depressed. Wood Turtles are active between mid-March and mid-October and tend to forage in lowland hardwoods and upland deciduous mesic to wet-mesic forests and open wet meadows and riparian grassy areas during the summer. Breeding typically occurs within or in close proximity to the water in spring and fall but can occur in any month. This species is often a communal nester and will typically lay eggs during June. Nesting areas tend to be within 200 feet of the stream. Incubation is approximately 55-70 days, therefore, eggs hatch between August and mid-September.

When possible, construction will occur during the turtle's non-active period (mid-October to mid-March) thereby avoiding potential disturbance to wood turtles. The following measures are designed to avoid disturbance to wood turtles if construction activities occur during the turtle's active period (mid-March – mid-October). An American Transmission Company (ATC) Environmental Representative⁵ will monitor construction activities to ensure compliance with this protocol.

- I. If construction activities will not require a temporary stream crossing at a given location, proceed as follows:
 - A. If construction will occur between March 15 – April 30, and will be within 75 feet of a perennial stream, then isolation fencing with turn-back wings will be installed within the transmission line right of way.
 - B. If construction will occur during the month of June or between August 15 – September 15, and will be within 200 feet of a perennial stream, then isolation fencing will be installed as described in I-A.
- II. If construction activities will require a temporary stream crossing at a given location, proceed as follows:
 - A. If the right-of-way is potentially suitable for turtle nesting (open-canopy conditions up to 200 feet from the stream bank with sandy or sandy loam soils), then isolation fencing will be installed along the stream bank and will run along the right-of-way on both sides of the stream to just beyond the structure construction area or up to 200 feet from the stream bank if the construction area is greater than 200 feet from the stream. The isolation fencing will be installed prior to March 15 and will be maintained until construction activities in the area have been completed or October 15, whichever occurs first.

⁵ ATC Environmental Representative is either an ATC Environmental Project Manager or ATC's Environmental Consultant.

- B. If the right-of-way is not suitable turtle nesting habitat, then isolation fencing will be installed as described in II-A and extend only 75 feet along the right of way on both sides of the stream.
- III. If the stream is parallel or runs angular to but does not cross the transmission line right-of-way where construction activity will occur, proceed as follows:
- A. If this portion of the right-of-way is potentially suitable for turtle nesting (open-canopy conditions up to 200 feet from the stream bank with sandy or sandy loam soils), then isolation fencing will be installed at the edge of the right-of-way along the entire stretch of nesting habitat within 200 feet of the stream bank. The isolation fencing will be installed prior to March 15 and will be maintained until construction activities in the area have been completed or October 15, whichever occurs first.
 - B. If the right-of-way is not suitable turtle nesting habitat and is within 75 feet of a stream bank, isolation fence will be installed along the entire stretch of nesting habitat within 75 feet of the stream bank as described in III-A.
- IV. Under certain circumstances there may be existing obstructions to turtle movement, such as roads, that occur between a stream and a construction area that is within 200 feet. In these cases no isolation fencing will be necessary. This applies only to construction sites where there will be no access from across a stream using a temporary bridge. This decision will be coordinated with appropriate DNR staff. In addition, any turtles that are observed within an active construction will be relocated by an ATC environmental representative outside of the fencing to a suitable habitat area no less than 50 feet from the isolation/construction area. ATC will document and report occurrences of wood turtles or wood turtle nests found within the isolation area.
- V. If wood turtles are found within the isolation area after the fencing has been installed or after construction activities have been initiated, then all wood turtles will be relocated by an ATC environmental representative outside of the fencing to a suitable habitat area no less than 50 feet from the isolation/construction area. ATC will document and report occurrences of wood turtles or wood turtle nests found within the isolation area.